Current Projects - Fish Culture

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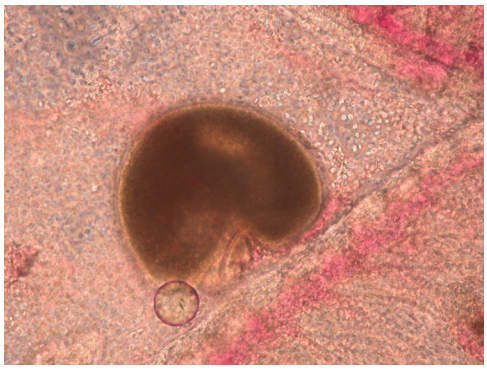

Better Disease Management in Fish Production

Diseases in fish hatcheries can lead to mortality and reduced growth rates which reduce efficiency and limit numbers and quality of fish produced for Iowa's fisheries. Effective disease management and treatment is therefore essential. In 2006, we initiated a new project so that we could dedicate more attention to obtaining approved drugs for hatcheries. Additionally, we are concentrating effort to improve prevention and management of a commonly occurring disease in our walleye production, Ich.

Rathbun Fish Hatchery uses raw lake water that has not been disinfected, a process that reduces the influx of fish diseases into the walleye grow-out tanks. During grow-out of walleye, Ich infections are almost a certainty and are currently addressed by prophylactic treatments with formalin. Formalin treatments are very effective, but add significantly to the cost of walleye production, yet the cost of disinfecting lake water to reduce the use of formalin is prohibitive. Beginning in 2009, research was conducted in production tanks to evaluate reduced prophylactic treatment regimes and their impact on Ich infection and amount of formalin applied.

In 2012, we evaluated the threshold level of Ich required before daily treatments were initiated to control the infection. The standard threshold has been 15 Ich cells per gill arch and a lower 5 Ich cell per gill arch was tested. The lower threshold may catch Ich infections before the infection escalated to a level requiring prolonged formalin treatments. The water temperature during the 2012 culture season was likely one of the warmest recorded at the hatchery. Unusually warm water temperatures in the lake resulted in water temperature in excess of 80ºF during a 30-day period. The life cycle of Ich is temperature dependant; higher temperatures result in faster lifecycles and greater proliferation and infection rates. Thus, in 2012 the observations of Ich were not necessarily consistent with previous years when water temperature was lower.

This research has established a system of monitoring and treatment used by hatchery staff to apply formalin judiciously resulting in cost savings and production of healthy fish. This study continues to garner knowledge that assists hatchery staff to reduce production costs of large walleye fingerlings.